San Francisco Bay Crossings Study

Final Report

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Executive Summary

A major new San Francisco Bay crossing has intrigued the public for a long time. The most recent interest in new crossing options reflects the dramatic rise in traffic and congestion resulting from the latest economic expansion in the Bay Area and the continuing separation of jobs and housing in the region.

The 2000 *San Francisco Bay Crossings Study* updates the findings from a 1991 study on the same subject.

Transbay travel over the next 25 years is expected to increase by 40 percent, outpacing the average regional rate of growth in travel. A large set of potential solutions to meet this growing demand was proposed in the scoping stage of the 2000 study. The study focused on the major themes and strategies that arose out of an extensive public outreach process. Six final alternatives were defined and evaluated to determine their cost, travel, environmental and social impacts.

Several parallel efforts are under way. The new Bay Area Water Transit Authority is formulating a proposal to augment and expand ferry service on the Bay; its plan is to be submitted to the state Legislature in December 2002. A regional "smart growth" planning initiative also is under way and will define an alternative land-use development pattern that, if implemented, could result in significantly lower levels of transbay travel than currently projected in this study.

The study's Policy Committee expressed a strong interest in exploring lower-cost operational improvements that could be implemented as a near-term response to traffic congestion in the bridge corridors. In addition, there is an opportunity to seek new regional funding from a possible increase in Bay Area bridge tolls (state Sen. Don Perata's initiative) to improve transbay travel options by all modes. This study's recommendations for near-term implementation include improvements that could be funded with existing funds as well as improvements that could be funded from a possible $1 increase in the toll on the Bay Area's state-owned bridges.

Major new crossing improvements will be extremely costly, in some cases requiring funding equal to or exceeding the entire amount of new regional funds estimated to be available over the next 25 years in MTC's latest *Regional Transportation Plan*.

Summary of Conclusions by Alternative

Alternative 1 — Express bus, carpool and operational improvements

This is one of the most cost-effective alternatives studied. These improvements can be tailored to meet evolving needs, developed as separate projects, and fit within funding constraints. Analysis of this alternative indicates that a regional express bus system could help serve future transit demand, and carpool-lane improvements could provide significant travel-time savings for carpoolers. Assuming successful implementation of current plans to address capacity issues, projected demand for transbay BART service can be handled primarily by adding trains and by strategies to facilitate faster loading/unloading of trains in San Francisco.

Alternative 2 — New BART and or/conventional rail tunnel in Bay Bridge corridor

The public expressed keen interest in crossings that involve BART, conventional and high-speed rail. A new rail crossing should be viewed as a very long-term investment, to serve transit demand beyond 2025, and to improve transit reliability and redundancy. A BART or rail tunnel under the Bay would be the most costly of the six alternatives studied. Overall, this alternative would produce the highest level of transit use, but the high cost and modest travel-time savings place it low on the cost-effectiveness scale. It also could have significant environmental impacts.

Alternative 3 — Reversible lane and widening of San Mateo-Hayward Bridge to eight lanes

Near-term travel improvements are expected to occur in this corridor with the opening of the new six-lane causeway in late 2002. As traffic grows and demand approaches the capacity of the widened bridge, a reversible lane would be an inexpensive and cost-effective way to address peak-direction demand in the near term. Beyond the reversible lane, the bridge could be further widened to eight lanes to serve projected San Mateo Bridge corridor traffic through at least 2025. The public generally favors widening the existing bridge over building a new bridge crossing. The corridor does not exhibit a strong transit market, limiting feasibility of rail or other major transit investments. Community concerns focused largely on the impacts of a potential need for widening Interstate 880. This issue would need further study.

Alternative 4 — New bridge between Interstate 238 and Interstate 380

A new mid-Bay bridge would have the greatest impact on reducing traffic congestion in the bridge corridors. Corollary effects include significant reductions of traffic on the San Mateo-Hayward Bridge, and a reduction in the duration of the peak period as well as a marginal decrease in peak-period traffic on the Bay Bridge. A new six-lane mid-Bay bridge with bicycle lanes and some express bus service would come at a high cost. Environmental impacts include displacement of residents and businesses near the expanded I-880/I-238 interchange. A new bridge engendered the strongest public reaction, both pro and con.

Alternative 5 — Dumbarton rail service

This is one of the least expensive and most cost-effective of the transbay improvements studied. Initiating rail service by rebuilding the existing Dumbarton rail bridge is popular with the public, even though it likely will have limited impact on traffic in the corridor. Funding for the basic reconstruction of the rail bridge is included in the current *Regional Transportation Plan*, although the cost of completing the necessary restoration of the bridge likely will exceed current funding. The basic start-up service would connect the Union City BART station with Caltrain destinations north and south of the bridge, serving some 3,000 to 4,000 daily riders in 2025.

Alternative 6 — New Dumbarton Bridge approach road to the south

A new southerly approach road to the Dumbarton Bridge could provide more direct access to travelers heading to jobs in Silicon Valley and communities south of the bridge. An expanded approach road system would alleviate regional through-traffic impacts on local communities. Much of a new two- to four-lane road between the Dumbarton Bridge and U.S. 101 would be below grade or in a tunnel to minimize environmental impacts and, as a result, would have a high construction cost.

In addition to the alternatives themselves, several policy-related measures also were evaluated to determine their impact on transbay travel. They included:

- peak-period congestion pricing on the bridges;
- smart growth land use; and
- increasing carpool-lane occupancy requirements to 3+ on the San Mateo and Dumbarton bridges and taking a lane on all three Bay bridges for carpools and buses.

Summary of Recommendations

Near-term recommendations included:

1) using existing funds to pursue the re-establishment of express bus service on the San Mateo-Hayward Bridge to test the transit market under current conditions, and proceed with very low-cost projects in Alternative 1 that have been determined to provide significant near-term operational benefits.
2) pursuing new bridge toll funding opportunities for reversible lanes on the San Mateo-Hayward Bridge, Dumbarton rail basic service, additional carpool-lane improvements, and BART core-capacity improvements.

Recommendations for further study included:

- higher-cost bridge carpool-lane improvements;
- Dumbarton approach improvements;
- BART core-capacity enhancements;
- specific transbay express bus proposals, a San Mateo-Hayward Bridge reversible-lane designation for 2+ carpool use (to be studied in MTC's *HOV-Lane Master Plan Update* in 2002–03) and potential to take an existing lane for a dedicated HOV/express bus lane on the Bay Bridge; and
- feasibility and operation of a San Mateo-Hayward Bridge reversible-lane.

As a follow-up, it was recommended that MTC:

- continue coordination with the High-Speed Rail Authority and the San Francisco Bay Area Water Transit Authority;
- support continuing work to develop regional consensus on a smart-growth land-use alternative; and
- add widening of the San Mateo-Hayward Bridge to the list of "Blueprint" projects in the next update of the *Regional Transportation Plan*.